KUKHARENKO, Georgiy Yakovlevich, kapitan dal'nego plavaniya; NEYMAN, I.I., red.; SARAYEV, B.A., tekhn.red.

[Sailing to the Antarctic to join a whater fleet] Plavanie v Antarktiku k kitoboinoi flotilii. Moskva, Izd-vo "Morskoi transport," 1960. 26 p. (MIRA 13:7)
(Antarctic regions--Whaling) (Tank vessels--Handling)

KUKHARENKO, I.I., inzh.

Attachments and instruments used at the Gomel' Agricultural Machinery Plant. Mash.Bel. no.4:164-174 '57. (MIRA 11:9)
(Gomel'-- Agricultural machinery industry)

KUKHARENKO, K. G.

Kukharenko, K. G., Rubikov, O. G., Chuksin, Yu. V., On oceanographic research completed by the second scientific-commercial expedition, Byul. tekhn.-ekon. inform. Sovnarkhoz Kaliningradsk. ekon. adm. r-na (Bulletin of Technical and Economic Information of the Sovnarkhoz of the Kaliningrad Economic Administrative Region), No 5, 1958, p 39-45; (RZhGeofix 7/59-6778)

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KUKHARENKO, L. I.

Lenins'ko-Stalinskyy plan elektrifikatsiyi SRSR (The Lenin-Stalin Plan For The Electrification Of The USSR) Kyyiv, Vyd-Vo Kyivs'kogo Derzhavnogo Universytetu, 1951.

55 p. illus., tables.

KUKHARENKO, L., delegatka.

World Congress of Women. Rabotnitsa 31 no.7:4-5 Jl '53. (MLRA 6:6)

1. Vsemirnyy kongress zhenshchin. (Women - Rights of women - Congresses)

KUKHARENKO, L.I., professor, doktor ekonomichnikh nauk.

Role of electrification in changing industrial conditions, labor, and labor productivity. Nauk.zap.Kiev.un. 15 no.9:33-48 '56. (MIRA 10:7)

(Electrification) (Labor productivity)

KUKHARENKO, Lidiya Ivanovna, doktor ekon.nauk, prof.; ROMANENKO, I.N., akademik, red.; LAZORENKO, M.F., red.

[Carrying out the Leninist program for socialist construction in the Ukraine] Zdiisnennia lenins'koi programy sotsialistychnoho gudivnytstva v Ukrains'kii RSR. Kyiv, To-vo dlia poshyrennia polit. i naukovykh znan' URSR, 1957. 70 p. (MIRA 11:5)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk (for Romanenko)
(Ukraine--Economic conditions)

KUKHARENKO, L.I.

[Transition of the Ukraine from an agrarian land to a mighty industrial and collective-farm republic] Peretvorennia Ukrainy z ahrarnoi v mohutniu industrial'no-kolhospnu respubliku. Kyiv, Vyd-vo Kyivs'koho derzh.univ., 1959. 229 p. (MIRA 13:6)
(Ukraine--Economic conditions)

KUKHARENKO, L., doktor ekon.nauk, prof.

Economic and technical foundation of communism. Nauka i zhyttia 9 no.7:1-5 Jl '59. (MIRA 12:11)
(Russia--Economic policy)

KUKHARENKO, L.

Mobile car unloader. Muk.-elev.prom. 25 no.7:18 Jl '59.
(MIRA 12:11)

1. Zhitomirskoye upravleniye khleboproduktov.
(Grain-handling machinery)

PHASE I BOOK EXPLOITATION SOV/4298

Kukharenko, Lidiya Ivanovna, Professor

Vyrishal'na stadiya zdiysnennya ideyi velykoho Lenina pro sutsil'nu elektryfikatsiyu krayiny (Decisive Stage in Realizing the Ideas of the Great Lenin on the Total Electrification of the Country) Kyyiv, 1960. 60 p. (Series: Tovarystvo dlya poshyrennya politychnykh i naukovykh znan' Ukrayins'koyi RSR. Seriya I, nos. 11/12) 26,000 copies printed.

Ed.: O. S. Koroyid, Candidate of Economics; Ed. of Editorial and Publ. Section: M. F. Lazorenko.

PURPOSE: This booklet is intended for the general reader.

COVERAGE: The booklet, written in Ukrainian, describes the scope and progress of the electrification program envisaged for the current Seven Year Plan. An historical outline of the state of power production in the USSR is given. Included are some organizational aspects of power production, which have been integrated into the standard framework of

Card 1/2

Decisive Stage (Cont.) SOV/4298

Marxian dogmas. Some of the larger power-development schemes presently under construction or under development are briefly described. Particular attention is given to programs designed for operation in the Ukrainian Soviet Socialist Republic. A discussion of the electrification of railways and farms is included. A number of footnotes cite works by Lenin and Khrushchev. There is only sparse information relating to atomic projects. No personalities are mentioned. There are no references.

TABLE OF CONTENTS: None given

AVAILABLE: Library of Congress

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KUKHARENKO, L.I., doktor ekon.nauk, prof.

My English impressions. Nauka i zhyttia 10 no.1:57-59
Ja '60. (MIRA 13:6)
(Great Britain--Description and travel)

KUKHARENKO, L.I., doktor ekonom.nauk, prof.

Greatness of Lenin's ideas. Nauka i zhyttia 10 no. 12:1-5 D '60.
(MIRA 14:4)
(Electrification)

KUKHARENKO, L.I., prof., doktor ekonom.nauk

Let's expand preparations for party congresses. Nauka i zhyttia
11 no.5:54-56 My '61. (MIRA 14:7)

1. Predsedatel' upravleniya Obshchestva dlya rasprostraneniya politicheskikh i nauchnykh znaniy Ukrainskoy SSR.
(Ukraine--Communist Party of the Soviet Union--Party work)

UL'YANOVA, Antonina Dmitriyevna; PAVLOVA, Varvara Vasil'yevna;
KUKHARENKO, L.I., doktor ekonom. nauk, prof., red.;
KADASHEVICH, O.O.[Kadashevych, O.O.], tekhn. red.

[Development of electrification in the Ukrainian S.S.R.; a bibliographical index] Rozvytok elektryfikatsii Ukrains'koi RSR; bibliografichnyi pokazhchyk. Pid red. L.I.Kukharenko. Kyiv, Vyd-vo Akad. nauk URSR, 1962. 158 p. (MIRA 15:7)
(Ukraine—Elektrification—Bibliography)
(Bibliography—Ukraine—Electrification)

KUKHARENKO, L., doktor ekon.nauk, prof.

Scientific basis for the guided development of society. Nauka
i zhyttia 11 no.1:51-53 Ja '62. (MIRA 15:2)
(Social sciences)

KUKHARENKO, L.M., inzh.

Computing the requirement for means of tranpsortation in the assembly of prefabricated buildings directly from trucks. Mekh. stroi. 20 no.5:5-7 My '63. (MIRA 16:4)
(Building) (Truck trailers)

KUKHARENKO, N.

"Planning Mills for Ore Dressing." p. 133 (RUDY, Vol. 1, No. 9, Nov. 1953) Praha, Czechoslovakia

SO: Monthly List of East European Accessions, Library of Congress, Vol. 3, No. 4, April 1954. Unclassified.

SOV/19-58-6-36/685

AUTHORS: Povolotskiy, I.A.; Yatskikh, V.G.; Komarov, N.I.; Barmut, M.I. and Kukharenko, N.A.

TITLE: A Combine for the Drifting of Mine Workings (Kombayn dlya prokhozhdeniya gornykh vyrabotok)

PERIODICAL: Byulleten' izobreteniy, 1958, Nr 6, p 12 (USSR)

ABSTRACT: Class 5b, 23. Nr 105004 (453944/580 of 27 September 1955). Submitted to the Ministry of Coal Industry of USSR. A combine for drifting development workings, provided with a work part in the form of two staged bars performing a periodical swinging motion in one horizontal plane. The bars bear disc cutters on their ends. The swinging motion of the bars is produced by a reciprocating rack actuated

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A Combine for the Drifting of Mine Workings SOV/19-58-6-36/685

by a hydraulic cylinder and coupled with two sectors with tooth rims attached on the bar saddles.

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CA

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Influence of granulated superphosphates on some agri-
cultural crops. N. I. Kukharenko and O. I. Medyantsva
Dopovidi Akad. Nauk Ukrain. R.S.R. No. 2, 141-5(1950).--
When 5-40% of normal superphosphates are applied by
broadcasting they are utilized by plants. The insolubiliza-
tion and the resulting unavailability for plants are believed
to be proportional to the amt. of contact between fertilizer
and the soil. Reduction of this contact increases effective-
ness of superphosphates. E.g., application of fertilizer in
rows is superior to broadcasting. Granulation of super-
. This

phosphates should also reduce contact with the soil.
was tried on oats grown in pots. Ordinary superphosphate (1.2 g. in
thoroughly mixed with soil in excessive amt. (1.2 g. reduced yield
per kg. soil-recommended dosage 0.6 g.) reduced yield in
chernozem soil from Drabow by 15% and in clayey soil from
Kiev by 9%. Similar application of granulated super-
phosphates (of 1-2.5-mm. diam.) increased yields on these
soils by 14% and 17%. With sugar beets in chernozem
plots and in turfy plots, the granular form was most effec-
tive also, especially when applied with the seed. No differ-
ence between the normal and granulated forms could be
shown on corn.
Murray Senkus

KUKHARENKO, N.I.

USSR.

[illegible]

47, 11682 [illegible]

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than the ordinary [illegible]

corn. The granules used were [illegible]

KUKHARENKO, N.I.; NOSOVS'KA, O.I.

Migration of phosphoric acid from granules of superphosphate. Dopovidi Akad. Nauk Ukr. R.S.R. '53, No.1, 41-5. (MLRA 6:4)
(CA 47 no.21:11622 '53)

KUKHARENKO, N.I.

VLASYUK, P.A., otvetstvennyy red.; VASILENKO, A.A., red.; YUKHIMCHUK, F.F., kand.sel'skokhozyaystvennykh nauk, red.; ZELIGMAN, [illegible], kand. tekhn.nauk, red.; KUKHARENKO, N.I., kand.biol.nauk, red.; MULYARSKIY, B.Ya., red.izd-va; SIVACHENKO, Ye.K., tekhn.red.

[Improving techniques of using fertilizers] Usovershenstvovanie tekhniki vneseniia udobrenii. Kiyev, 1955. 255 p. (MIRA 11:6)

1. Akademiya nauk URSR. Kiyev. Rada po vyvcheniyu produktivnykh sil URSR. 2. Deystvitel'nyy chlen Akademii nauk USSR i Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Vlasyuk) 3. Deystvitel'nyy chlen Akademii nauk USSR (for Vasilenko)
(Fertilizers and manures)

[illegible]

superphosphate (I) was investigated [illegible]

Kukharenko, N.I.

USSR/Soil Science - Mineral Fertilizers.

J-4

Abs Jour : Ref Zhur - Biol., No 3, 1958, 10533

Author : Kukharenko, N.I.

Inst : Institute of Physiology of Plants and Agrochemistry of The Academy of Sciences UkSSR

Title : Methods (With Relation to the Seeds in the Rows) of Applying Superphosphate.

Orig Pub : Dopovidi Akad Nauk USSR, 1956, No 6, 588-590

Abstract : In experiments with the application of P^{32}, conducted by the Institute of Physiology of Plants and Agrochemistry of the Academy of Sciences UkSSR in 1955, millet assimilated P fertilizer best in the early part of the growth period when the P_c was applied together with the seeds; on the second day after the appearance of shoots 3.33 mg. P_2O_5 per gram (dry weight) of plant mass entered the

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KUKHARENKO, Nina Ivanovna, kand.biol.nauk; MANORIK, A.V., kand.sel'skokhoz. nauk, glavnyy red.; FAL'KO, Yu.G. [Fal'ko, IU.H.], red.

[Mineral fertilizers and their effective utilization] Mineral'ni dobryva ta ikh efektyvne zastosuvannia. Kyiv, 1960. 39 p. (Tovarystvo dlia poshyrennia politychnykh i naukovykh znan' Ukrains'koi RSR. Ser.6, no.24). (MIRA 14:1)

(Fertilizers and manures)

KUKHARENKO, N. K., (ENGR)

Dissertation: -- "The separation of Sandy Layers of Productive Devonian Strata and the Evaluation of Their Petroliferous and Collector Properites With the Aid of Geophysical Engineering Methods in the Bashkir-Tartar Petroleum Fields." Cand Geol-Min Sci, Sci Res Inst of Geophysical Methods of Prospecting (VNIIGR), 18 Jun 54. (Vechernyaya Moskva, Moscow, 9 Jun 54)

SO: sum 318, 23 Dec. 1954

KUKHARENKO, N. K., ODINOKOV, V. P. and SHIMELEVICH, Yu. S.

"The Possibilities of Using Neutron-Induced Active Sodium for Locating Oil-Containing and Water-Containing Layers and for Determining Water-Oil Contacts in Drive-Pipe Well Conditions".

Scientific Research Institute of Geophysical Methods of Prospecting

Report appearing in 1st Volume of "Session of The Academy of Sciences USSR on the Peaceful Use of Atomic Energy, 1-5 July 1955", Publishing House of Academy of Sciences USSR, 1955.

SO: Sum 728, 28 Nov 1955.

[illegible] N. K.

[illegible]

[illegible] ENCE OF THE ACADEMY OF SCIENCES OF THE USSR ON THE PEACEFUL USES OF ATOMIC ENERGY, JULY 1-6, 1955. SESSION OF THE DIVISION OF TECHNICAL SCIENCE. (Translation). 10p.

[illegible]

Kukharenko, N.K.

Neutron-induced radioactive sodium for [illegible]
water-containing strata and [illegible]
interface in [illegible]

S.S.S.R. po Mirnomu Ispol'zovaniyu [illegible] Akad. Nauk
1955, Zasedaniya Otdel. Tekh. Nauk [illegible] Atomnoi Energii
summary [illegible]

This is made possible [illegible] and [illegible]
and the high energy of its radiation [illegible]
water-and formation [illegible]
of the [illegible]

LFM

KUKHARENKO, N.K.

[redacted]

Evaluating the specific resistance of layers in shield areas.
Razved. i prom. geofiz. no.16:3-11 '56. (MLRA 10:8)
(Prospecting--Geophysical methods)

KUKHARENKO, N.K.; SHIMELEVICH, Yu.S.; BESPALOV, D.F.; OKINOKOV, V.A.

New geophysical method of exposing petroleum- and water-bearing strata, and determination of the water-oil boundary in cased wells. Neft.khoz.34 no.3:43-49 Mr '56. (MLRA 9:7)

(Oil well logging)

KUKHARENKO, N.K.

KUKHARENKO, N. K.

"Plotting Petroleum and Water Bearing Strata, and the Determination of the Water-Petroleum Contact in Cased Wells by the NGK-IS and NK Methods," Utilization of Radioactive Isotopes & Emanations in the Petroleum Industry (Symposium), Min. Petroleum Industry USSR, 1957.

Results of the Joint Session of the Technical Council of Min. of the Petroleum Industry USSR and Soviet Sci. and Technical Association, Moscow, 14-19 Mar 1956.

KUKHARENKO, N.K. 102

PHASE I BOOK EXPLOITATION SOV/5592

Vsesoyuznoye soveshchaniye po vnedreniyu radioaktivnykh izotopov i yadernykh izlucheniy v narodnom khozyaystve SSSR. Riga, 1960.

Radioaktivnyye izotopy i yadernyye izlucheniya v narodnom khozyaystve SSSR; trudy Vsesoyuznogo soveshchaniya 12 - 16 aprelya 1960 g. g. Riga, v 4 tomakh. t. 4: Poiski, razvedka i razrabotka poleznykh iskopayemykh (Radioactive Isotopes and Nuclear Radiation in the National Economy of the USSR; Transactions on the Symposium Held in Riga, April 12 - 16, 1960, in 4 volumes. v. 4: Prospecting, Surveying, and Mining of Mineral Deposits) Moscow, Gostoptekhizdat, 1961. 284 p. 3,640 copies printed.

Sponsoring Agency: Gosudarstvennyy nauchno-tekhnicheskiy komitet Soveta Ministrov SSSR. Gosudarstvennyy komitet Soveta Ministrov SSSR po ispol'zovaniyu atomnoy energii

Eds. (Title page): N. A. Petrov, L. I. Petrenko, and P. S. Savitskiy; ed. of this volume: M. A. Speranskiy; Scientific ed.: M. A. Speranskiy; Executive Eds.: N. N. Kuz'mina and A. G. Ionel';

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Radioactive Isotopes and Nuclear (Cont.) SOV/5592

Tech. Ed.: A. S. Polosina.

PURPOSE : The book is intended for engineers and technicians dealing with the problems involved in the application of radioactive isotopes and nuclear radiation.

COVERAGE: This collection of 39 articles is Vol. 4 of the Transactions of the All-Union Conference of the Introduction of Radioactive Isotopes and Nuclear Reactions in the National Economy of the USSR. The Conference was called by the Gosudarstvennyy nauchno-tekhnicheskiy komitet Sovet Ministrov SSSR (State Scientific-Technical Committee of the Council of Ministers of the USSR), Academy of Sciences USSR, Gosplan SSSR (State Planning Committee of the Council of Ministers of the USSR), Gosudarstvennyy komitet Soveta Ministrov SSSR po avtomatizatsii i mashinostroyeniyu (State Committee of the Council of Ministers of the USSR for Automation and Machine Building), and the Council of Ministers of the Latvian SSR. The reports summarized in this publication deal with the advantages, prospects, and

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development of radioactive methods used in prospecting, surveying, and mining of ores. Individual reports present the results of the latest scientific research on the development and improvement of the theory, methodology, and technology of radiometric investigations. Application of radioactive methods in the field of engineering geology, hydrology, and the control of ore enrichment processes is analyzed. No personalities are mentioned. There are no references.

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Kukharenko, N. K., Ya. N. Basin, and N. V. Polukhina. Problem of Devising an Industrial Method for the Determination of Bed Porosity According to the Data of Neutron Gamma Logging 95

ZOLOTOV, A.V.; KUKHARENKO, N.K.

The intrinsic background and spectral sensitivity of discharge-type gamma counters. Razved. i prom. geofiz. no. 35:29-34 '60. (MIRA 13:12)

(Oil well logging, Radiation)

KUKHARENKO, N.K.; BASIN, Ya.N.

Determining the porosity of strata from neutron-gamma well logs.
Trudy VNII no.29:195-206 '60. (MIRA 13:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut geofizicheskikh metodov razvedki.

(Oil well logging, Radiation)

All-Union Sci. Res. Inst. of Nuclear Geophysics and Geochemistry

KUKHARENKO, N.K.; BASIN, Ya.N.

Characteristics of TRK-type instruments for radioactive logging of wells. Razved. i prom. geofiz. no.47:92-96 '63. (MIRA 16:8)
(Oil well logging, Radiation--Equipment and supplies)

KUKHARENKO, N.K.; BASIN, Ya.N.; BAL'VAS, Yu.P.; TYUKAYEV, Yu.V.

New type of models of porous strata for neutron logging. Atom. energ. 15 no.4:338-339 0 '63. (MIRA 16:10)

KUKHARENKO, N.K.; BASIN, Ya.N.

Study of RK-60L instruments for radioactive logging. Razved. i prom. geofiz. no.47:106-112 '63. (MIRA 16:8)
(Logging (Geology)—Equipment and supplies)

KAIPOV, R.L.; ZIV, D.M.; LEYPUNSKAYA, D.I.; SAVOSIN, S.I.; FEDOROV, V.V.;
FRADKIN, G.M.; SHIMELEVICH, Yu.S.; BASIN, Ya.N.; KUKHARENKO, N.K.;
SHESTAKOV, B.I.

Use of Ac - Be neutron sources in industrial geophysics. Atom energ.
16 no.3:269-270 Mr '64. (MIRA 17:3)

KUKHARENKO, N.Ya.

"Concentration of ores" by S.I.Pol'kin. Reviewed by N.IA.Kukharenko.
TSvet.met. 27 no.5:74-75 S-O '54. (MIRA 10:10)

1. Institut Mekhanobr.
(Ore dressing) (Pol'kin, S.I.)

KUKHARENKO, F.G. (Voronezh)

Maltese-cross mechanisms for reducing inertia loadings in automatic machines having an intermittent-motion drive. Mashinovedenie no.4:32-45 '65. (MIRA 18:8)

KUKHARENKO, P.G.

Investigating Geneva mechanisms with curvilinear grooves. Teor. mash. i mekh. no.107/108.90-108 '65. (MIRA 18:7)

KUKHAREV, V.N.; KUKHARENKO, P.I.

Local air cooling in longwalls of transitional depth. Ugol' Ukr. 4 no.10:27-28 O '60. (MIRA 13:10)

1. Dneprogiproshakht.
(Coal mines and mining--Air conditioning)

KUKHAREV, V.N., gornyy inzhener; KUKHARENKO, P.I., gornyy inzhener;
BABCHENKO, Yu.N., gornyy inzhener

Local air cooling in the Artem Mine of the Dzerzhinskugol' Trust.
Trudy Sem.po gor.teplotekh. no.3:119-127 '61. (MIRA 15:4)

1. Dneprogiproshakht.
(Krivoy Rog Basin—Mine ventilation)

KALACHNIKOV, A.Ya., inzh.; KUKHARENKO, P.I., inzh.; KUKHAREV, V.N., inzh.

Mobile air conditioners for deep mines; response to N.V.Poliakov and N.N.Khokhotva's article "Results of the experimental operation of air conditioners for air cooling in longwalls." Ugol' 36 no.4: 58-59 Ap '61. (MIRA 14:5)

1. Dneprogiproshakht.
(Coal mines and mining--Air conditioning)
(Poliakov, N.V.) (Khokhotva, N.N.)

KUKHARENKO, R. P.

USSR/Medicine - Modification of Microorganisms

Nov 53

"Modification of Microorganisms Under the Effect of Short Ultraviolet Rays," A. B. Grenader, R. P. Kukharenko, B. Ya. El'bert, Chair of Microbiol, Minsk Med Inst; Belrorussian Inst of Neurol and Physiol

Zhur Mikro, Epid, i Immun, No 11, pp 30-31

Irradiation of B. scleromatis with UV light of wavelengths 250-260 mu led to partial sterilization. In addition to that, there was transformation of the ordinary (capsular) form into gram-negative cocci.

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Immunization of rabbits with these cocci led to appearance in the blood of antibodies against both the coccal form and the noncapsular variant of B. scleromatis.

1. KUKHARENKO, S.

2. USSR (600)

4. Stalin, Iosif, 1879-1953

7. In the name of the great leader.
Mol. kolkh. 19 No. 12, 1952

9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

KUKHARENKO, S.

China - Forests and Forestry

Great green wall, Vokrug sveta No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

KUKHARENKO, S.

A sea in the middle of an ocean. Vokrug sveta no.9:25-27 S '53.
(MLRA 6:10)
(Sargasso sea)

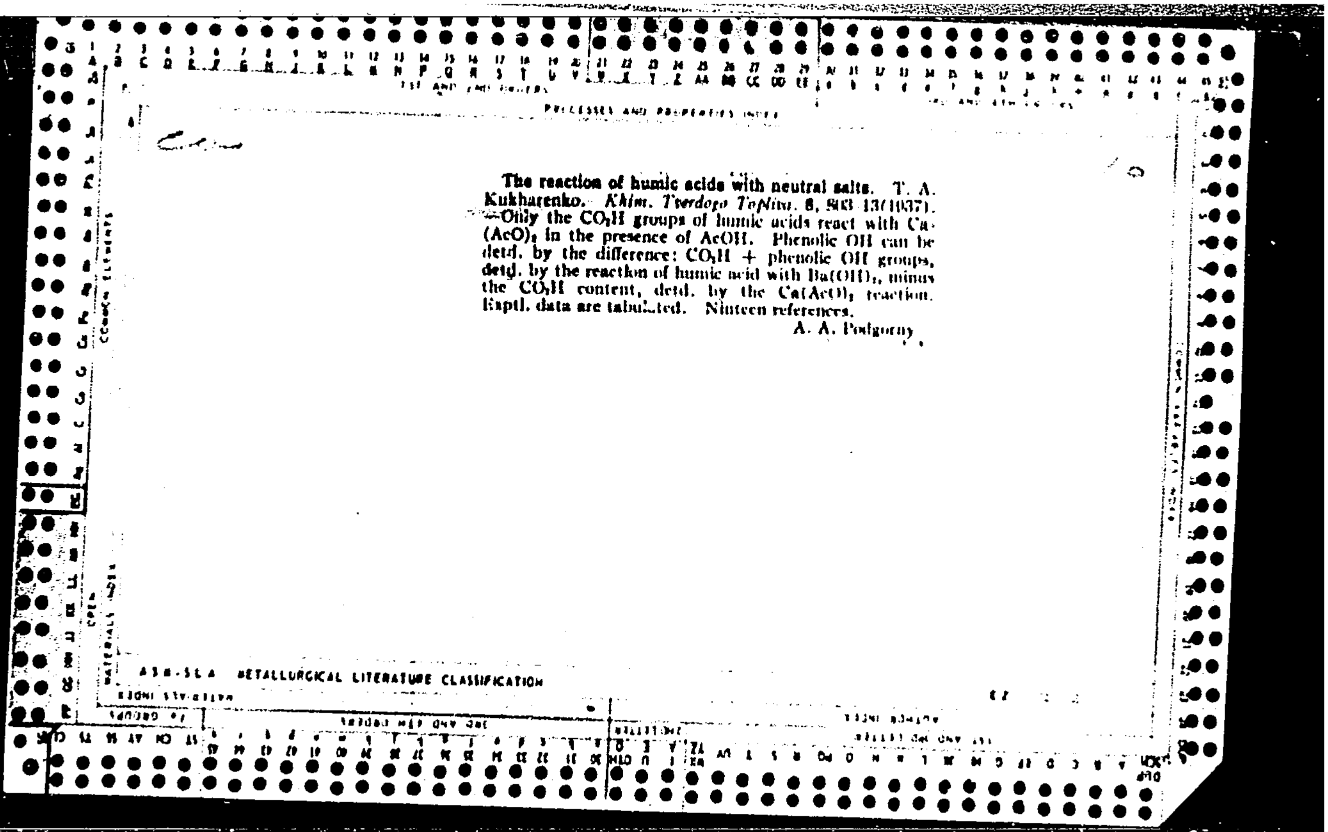
KUKHARENKO, S.

In Gokasho Bay. Vokrug sveta no.2:48-49 F '54. (MLRA 7:2)
(Gokasho Bay, Japan--Pearl-fisheries)
(Pearl-fisheries--Gokasho Bay, Japan)

KUKHARENKO,S.

"Modern Indonesia." Reviewed by S.Kukharenko. Vokrug sveta no.6:59-61 Je '55. (MIRA 8:9)

(Indonesia--Description and travel)


PROCESSES AND PROPERTIES INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

The reaction of humic acids with neutral salts. T. A. Kukharenko. *Khim. Tverdogo Topliva* 8, 903-13(1937).—Only the CO_2H groups of humic acids react with $Ca(AcO)_2$ in the presence of AcOH. Phenolic OH can be detd. by the difference: CO_2H + phenolic OH groups, detd. by the reaction of humic acid with $Ba(OH)_2$, minus the CO_2H content, detd. by the $Ca(AcO)_2$ reaction. Exptl. data are tabulated. Ninteen references.

A. A. Podgorny

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

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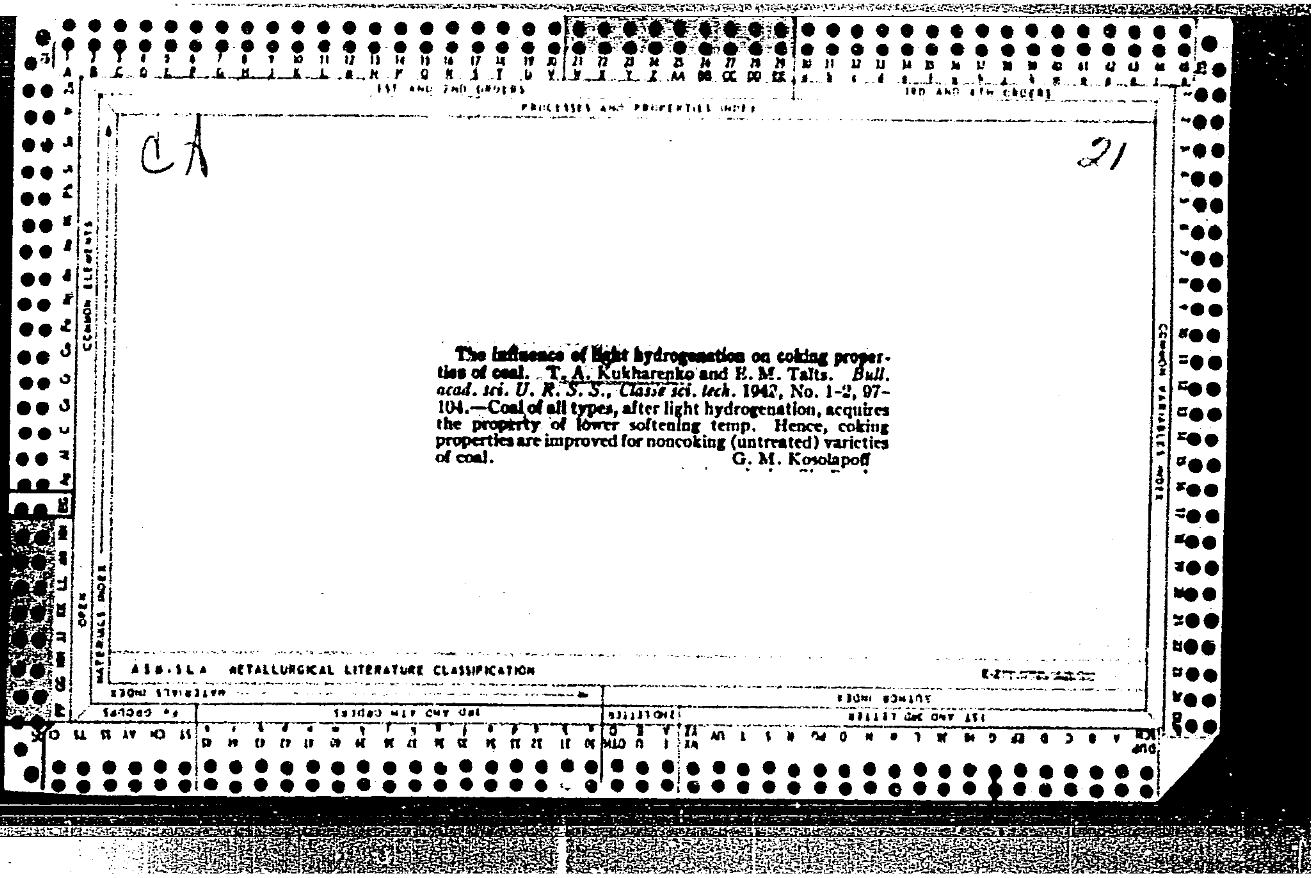
Reactions of humic acids with neutral salts. II. T. A. Kukharenko, *Khim. Tverdogo Topliva* **8**, 1061-72 (1937); cf. *C. A.* **33**, 2687^4.—Expts. are described and analytical data given to show that the reaction of humic substances with the Ca(AcO)$_2$ can be utilized for the titrimetric detn. of the CO$_2$H groups. Four references.

A. A. Podgorny

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

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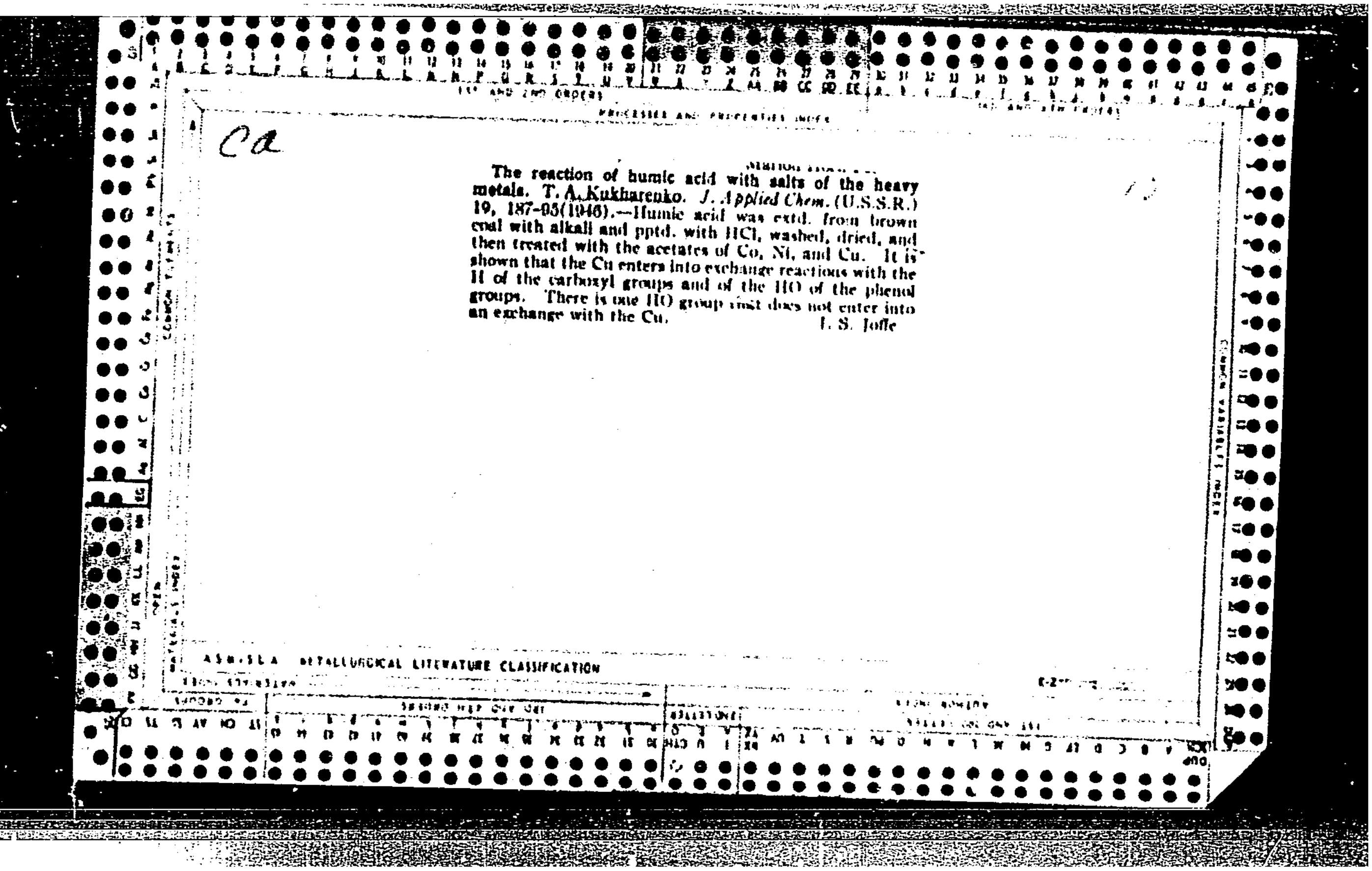
The influence of light hydrogenation on coking properties of coal. T. A. Kukharenko and E. M. Talts. *Bull. acad. sci. U. R. S. S., Classe sci. tech.* 1942, No. 1-2, 97-104.—Coal of all types, after light hydrogenation, acquires the property of lower softening temp. Hence, coking properties are improved for noncoking (untreated) varieties of coal.

G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

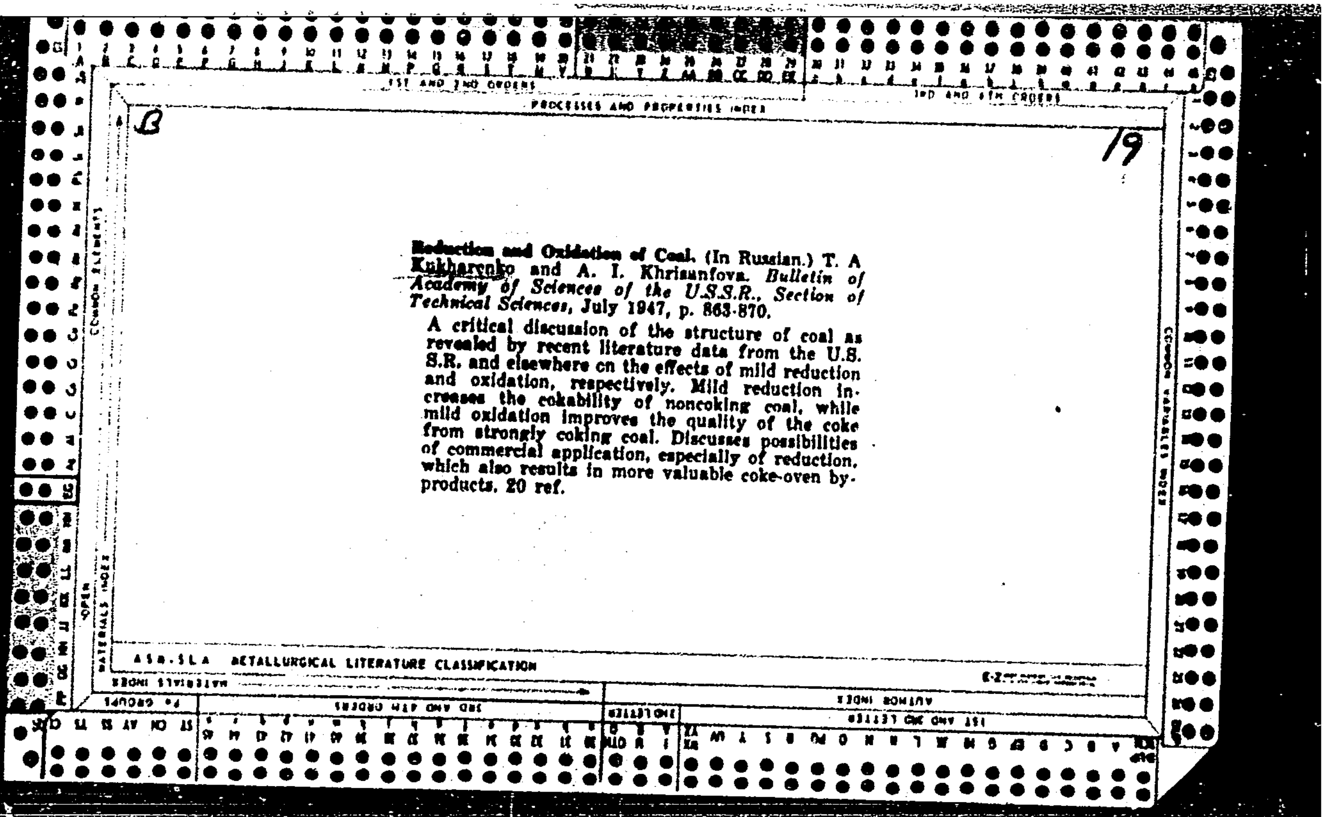


1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX

Ca

The reaction of humic acid with salts of the heavy metals. T. A. Kukharenko. *J. Applied Chem.* (U.S.S.R.) 19, 187-93(1946).—Humic acid was extd. from brown coal with alkali and pptd. with HCl, washed, dried, and then treated with the acetates of Co, Ni, and Cu. It is shown that the Cu enters into exchange reactions with the H of the carboxyl groups and of the HO of the phenol groups. There is one HO group that does not enter into an exchange with the Cu.

I. S. Joffe



1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS

B

19

Reduction and Oxidation of Coal. (In Russian.) T. A Kukharenko and A. I. Khrisanfova. *Bulletin of Academy of Sciences of the U.S.S.R., Section of Technical Sciences,* July 1947, p. 863-870.

A critical discussion of the structure of coal as revealed by recent literature data from the U.S.S.R. and elsewhere on the effects of mild reduction and oxidation, respectively. Mild reduction increases the cokability of noncoking coal, while mild oxidation improves the quality of the coke from strongly coking coal. Discusses possibilities of commercial application, especially of reduction, which also results in more valuable coke-oven by-products. 20 ref.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

C.A.

21

Baikonur gas-generator tar and its utilization. T. A. Kukharenko and E. P. Uporova. *Vestnik Akad. Nauk Kazakh. S.S.R.* 4, No. 8(29), 37-43(1947).—The coal tar from Baikonur deposits was found to be a satisfactory source of phenols and N bases; pitch from it is too high in ash to be completely satisfactory. Motor-fuel oils cannot be satisfactorily obtained by direct thermal treatment, but destructive hydrogenation after phenol recovery appears attractive. The lower- and the higher-boiling fractions after phenol removal are promising as Cu ore-flotation agents.

G. M. Kosolapoff

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

Ca

21

Sorption method of determination of constituent groups in coals and their components. K. I. Syskov and T. A. Kukharenko. *Zavodskaya Lab.* 13, 25-8(1947).—(1) The sum of phenolic OH and of COOH groups is detd. by the amt. of chemisorbed Ba(OH)$_2$. Three equal samples, ground to 900 mesh/sq. cm., are treated with equal vols. of 0.03, 0.06, and 0.10 *N* Ba(OH)$_2$, allowed to stand, with occasional shaking, for 3 days, then a 4th day without stirring, after which one half of the soln. added to each sample is titrated with HCl. The amt. E_1 of Ba(OH)$_2$ adsorbed, plotted against the equil. concn., shows a sharp bend the ordinate of which measures the OH + COOH; the values obtained with different initial Ba(OH)$_2$ solns. must not differ by more than 0.2 mg. equiv./g. In many cases it is sufficient to derive the equil. E_1 from just one detn. with Ba(OH)$_2$ 0.03 *N* and only to check with a 0.06 *N* soln. The method is applicable mainly to humic acids, lignins and residual coals; presence of bitumens interferes with the sorption; results coincide with those found by the method of methylation with Me$_2$SO$_4$. (2) The COOH content is detd. in a similar way by the amt. E_4 of Ca(AcO)$_2$ chemisorbed in 4 days from 0.3 *N* and 0.4 *N* solns., by titration of the equil. soln. with 0.02 *N* NaOH; results are reliable when the two detns. do not differ by more than 0.2 mg. equiv./g. The method is applicable to humic acids, lignin, and certain alk. exts. from coal. Results coincide with those given by the method of methylation with MeOH. (3) The content of phenolic OH is found by the difference $E_4 - E_1$.

N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KUKHARENKO, T. A.

"Investigation of Lignins by the Chemosorption Method," Zhur. prik. khim., No.3, 1948

PROCESSES AND PROPERTIES INDEX

C1

7

Titrometric semimicro determination of functional groups in humic preparations. T. A. Kukharenko. *Zhur. Anal. Khim.* 3, 181-5(1948).—To det. the total content of phenolic hydroxy and carboxy groups, grind the humic matter through a 900-mesh per 1 cm. sq. sieve, weigh two 0.05-g. samples, and place each in a slightly larger than 25-ml. container. Add to one 25 ml. of 0.1 *N* $Ba(OH)_2$ and to the other 25 ml. of 0.08 *N* $Ba(OH)_2$. Stopper, using corks provided with holes into which insert soda-lime tubes and heat to 100°. After 20-25 min. replace the corks with ground-glass stoppers held securely with rubber bands. Keep in an oven at 100° for 6 hrs., shaking the containers 2-3 times during the first 4 hrs. Remove the containers from the oven, cool to 20°, transfer 10 ml. of clear liquid into Erlenmeyer flasks contg. an excess of standard 0.1 *N* HCl, and titrate back with 0.1 *N* $Ba(OH)_2$ to a phenolphthalein end point. To det. the content of carboxyls, weigh 2 samples as above, add to one 25 ml. of 0.3 *N* and to the other the same amt. of 0.4 *N* $Ca(OAc)_2$. Heat as above, cool to 20°, and titrate 10 ml. of clear liquid with 0.02 *N* NaOH to a phenolphthalein end point. The no. of mg.-equiv. of NaOH used to titrate the AcOH formed from the reaction of 1 g. of sample with $Ca(OAc)_2$ indicates the no. of carboxyl groups. M. Hosch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KUKHARENKO, T. A.

PA 64T8

USSR/Chemistry - Peat, Acid Oils of Feb 1948
Chemistry - Sorption

"Chemosorption Method of Research on Hematomelanic Acids," T. A. Kukharenko, Inst of Fuel, Acad Sci USSR, 7½ pp

"Zhur Prik Khim" Vol XXI, No 2

Chemosorption and methylation methods were used to determine characteristics of hematomelanic acids in coals and peat. Determined that from the chemical standpoint subject acid was closely related to humic acid. Satisfactory correlation of data obtained from both test methods confirmed the fact that the methylation method can be used to determine the characteristics of hematomelanic acid. Submitted 24 Jan 1947. [redacted] 64T8

CA

23

Study of lignins by the chemisorption method. T. A. Kukharenko. *Zhur. Priklad. Khim.* (*J. Applied Chem.*) 21, 291–3(1948).—Detns. of equil. adsorption of $Ba(OH)_2$ and of $Ca(OAc)_2$ on lignin, resulting in definite satn. values characteristic of the given lignin, give a measure of the OH + CO_2H and CO_2H group contents, resp. The method was tested on 3 lignin prepns., purified by extn. with EtOH + C_6H_6, then with boiling H_2O and dil. HCl, finally by hydrolysis with concd. HCl at 0°. Detns. of the total active group content and of the CO_2H group content by the chemisorption method and by methylation with MeOH and Me_2SO_4 coincide very exactly. N. T.

2

cA

The nature of the exchange reaction between humic acid and calcium acetate. T. A. Kukharenko and L. A. Borozdina. *Kolloid. Zhur.* 11, 244-50(1949); cf. C.A. 43, [illegible]c.—The rate of reaction between 2 specimens of humic acid (I) (63.5 and 65.7% C) and $Ca(OAc)_2$ solns. increased with temp. (20-100°) but the final amt. of AcOH liberated was independent of temp.; it increased with the concn. of $Ca(OAc)_2$ and was not affected by addn. of $CaCO_3$. Hence, $Ca(OAc)_2$ reacts with the CO_2H groups of I without affecting its OH groups. A specimen of I contg. 67.3% C liberated more AcOH at high than at low temps.

I. I. Bikerman

KUKHARENKO, T. A.

60/49T25

USSR/Chemistry - Analysis
Chemistry - Peat Tar

Apr 49

"Problem of the Nature of Matter Which is Precipitated From Primary Peat Tars by Petroleum Ethers," T. A. Kukharenko, Inst of Mineral Fuels, Acad Sci USSR, 8½ pp

"Zhur Prik Khim" Vol XXII, No 4

Acid asphaltenes from the precipitated substances are classed as high-molecular phenols by acid and neutral tests with barium hydroxide and calcium acetate. Their molecular weight is 340-380, as determined by their reaction with barium hydroxide. Submitted 10 Jul 48.

60/49T25

CA

21

Separation of the humic acids of coal into fractions. T. A. Kukharenko. *Doklady Akad. Nauk S.S.S.R.* ~~68, 317-20(1949).~~—Several samples of coal humic acids were sepd. into fractions by extn. with Na oxalate (initial pH 6.6), NaF (initial pH 7), Na_2CO_3 (pH 10.5), NH_4OH (pH 11.1), NaOH (pH 13), NaOH following Na_2CO_3, and NaOH following NaF. Expectedly, alkalies give high extn. yields, while salts, such as NaF are essentially inactive. Generally, the higher is the pH of the soln. the higher is the C and the H content of the extd. materials; no regular variations of S and N are seen, but there is a slight decline of the content of functional groups per unit wt. in the extd. matter with increased pH of the soln. The results are given graphically. Apparently, humic acids form a closely interrelated family, both in the sense of chem. structure and mol. wts. G. M. Kosolapoff

KUKHARENKO, T.A.

USSR

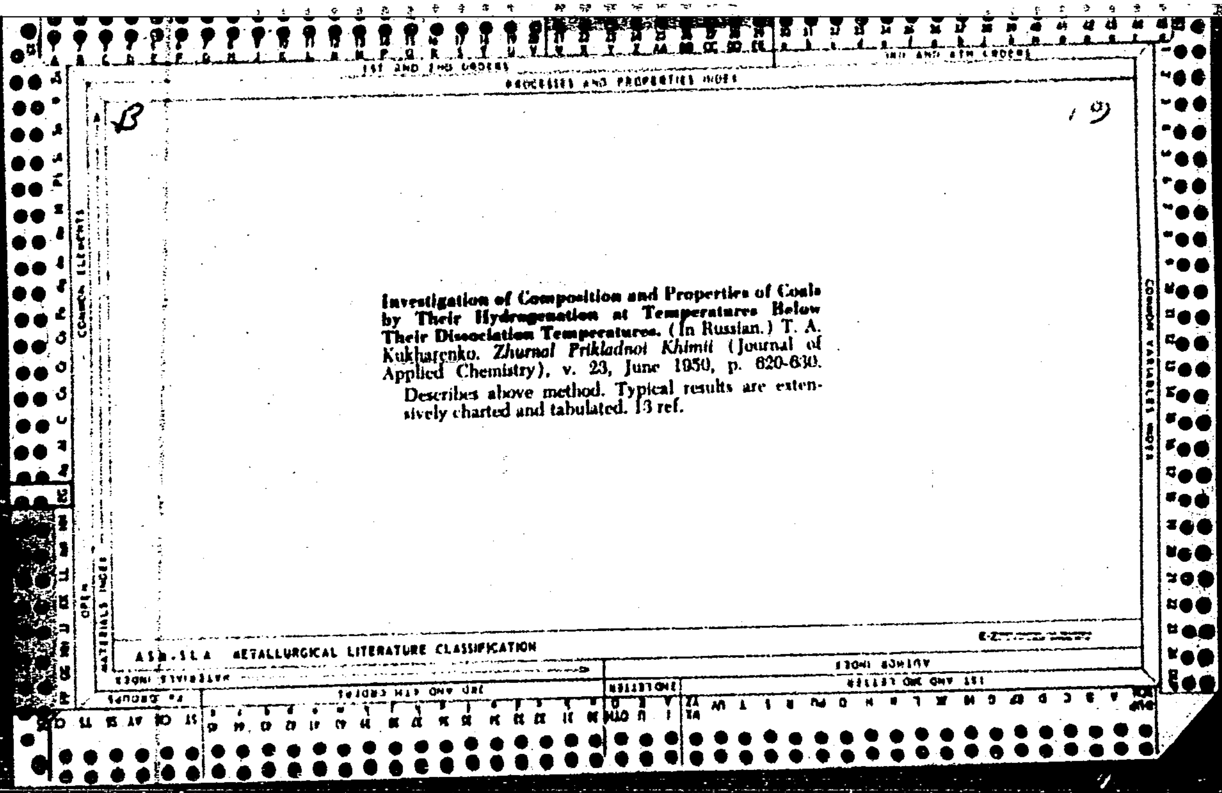
The study of kinetics of the double exchange reactions of humic acids with calcium acetates as means to characterize their colloidal-chemical nature. T. A. Kukharenko. *Trudy Inst. Goryuch. Iskopaemykh, Akad. Nauk S.S.S.R.*, 2, 193-207(1950).—The rate of reaction of the humic acids of peat and earthy brown coal with different concns. of $Ca(C_2H_3O_2)_2$ and at different temp. was found to increase with the salt concn. The total amt. of salt reacting with one g. humic acid remains const. Repeated treatment of the brown-coal humic acid with fresh portions of the salt showed that the limiting amt. of reaction under different exptl. conditions was const., which proved that carboxyl groups alone participate in the reaction, while the phenolic hydroxyls do not. Humic acids prepd. artificially from bituminous coal and sugar show the same regularities. The humic acids of lignites behave differently, with more salt reacting with one g. humic acid at 100° than at room temp. W. M. S.

[illegible] T. A.

USSR.

Humic acids T. A. [illegible]

[illegible] constituents of [illegible]



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

B

19

Investigation of Composition and Properties of Coals by Their Hydrogenation at Temperatures Below Their Dissociation Temperatures. (In Russian.) T. A. Kukharenko. *Zhurnal Prikladnoi Khimii* (Journal of Applied Chemistry), v. 23, June 1950, p. 620-630.

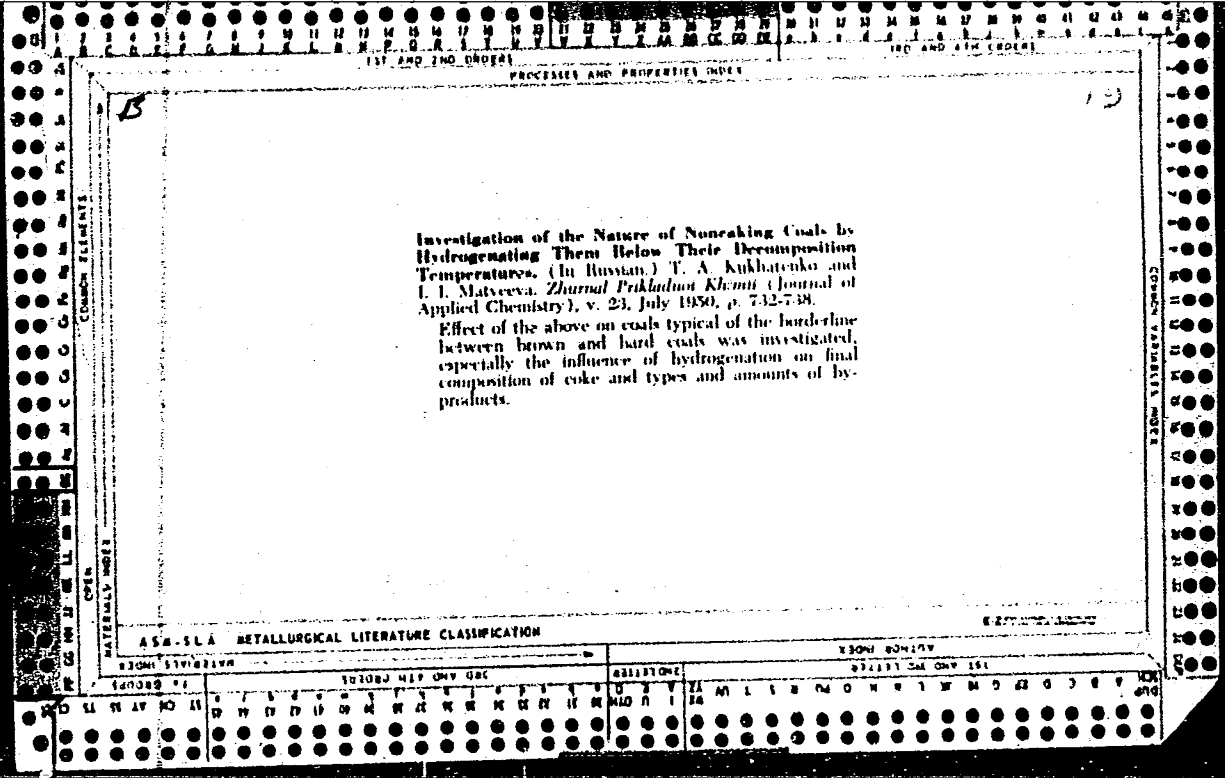
Describes above method. Typical results are extensively charted and tabulated. 13 ref.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

A

[illegible]
21

An investigation of the composition and properties of bituminous coals by hydrogenating them below their decomposition temperatures. T. A. Kukharenko. *J. Applied Chem. U.S.S.R.* 23, 655-63(1950)(Engl. translation); *Zhur. Priklad. Khim.* 23, 620-30(1950).—A 0.5-kg. sample of coal ground to 0.25 mm. was hydrogenated in a 2-l. revolving autoclave for 2 hrs. below the decompn. temps. (320-380°) and at 72-105 atms. Long-flaming coal acquires clinkering capacity with loss of O as H_2O from functional groups. The methoxyl no. drops from 6.84% for the original coal to 3.47% for the 1st stage of hydrogenation and 3.28% for the 2nd. Gas coal improves in coking properties with little change in ultimate analysis and a slight decrease in volatiles. Coking, medium lean, and lean coals undergo simplification of the complex org. compds. with the addn. of H as shown by an increase in volatiles, C, and H. The methoxyl no. remains low (0.43, 0.43, and 0.53%) for the original coal and after 1st and 2nd stages of hydrogenation, resp. Thus the hydrogenation of coal may be used to ascertain its nature.
Earl S. McColley


1ST AND 2ND ORDERS
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3RD AND 4TH ORDERS
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19
COMMON ELEMENTS
COMMON VARIABLES INDEX
MATERIALS INDEX
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION
AUTHOR INDEX
1ST AND 2ND LETTERS

Investigation of the Nature of Noncaking Coals by Hydrogenating Them Below Their Decomposition Temperatures. (In Russian.) T. A. Kukharenko and I. I. Matveeva. *Zhurnal Prikladnoi Khimii* (Journal of Applied Chemistry), v. 23, July 1950, p. 732-738.

Effect of the above on coals typical of the borderline between brown and hard coals was investigated, especially the influence of hydrogenation on final composition of coke and types and amounts of by-products.

[illegible]
[illegible]

Investigating the nature of noncoking coals by hydrogenating them below their decomposition temperatures. I. A. Kukharenko and I. I. Matveeva. *J. Applied Chem. U.S.S.R.* 23, 773-9(1950)(Engl. translation).--Coal, lying between brown and bituminous coal, can be hydrogenated to acquire the coking capacity of good coking coal at 60-100 atm. and 350-380°. The per cent C increased 3% without change in the per cent H. The per cent total volatile and functional groups decreased. The compn. of the humic acids is unchanged, but the amt. decreases. The yield of primary tar was doubled (from 7-10 to 14-20%); the semicoke increased (74-78%), but the gas + losses decreased (6.69 to 1.77%). The compn. of the tar showed less asphalt but the same per cent phenols + paraffins. Hydrogenation involves a simplification of the structure of the most complex part of the coal (shown by heat of wetting with MeOH) plus reduction of the difficultly reducible humic acids. The oxidation of a coal can be estd. from the change in its ultimate analysis on hydrogenation. Karl S. McColley

CA

10

Composition of humic acids of various peats I. A. Kukharenko. *Torfyanaya Prom.* 27, No. 12, 23-6(1950); cf. *C.A.* 44, 9147g.—Extn. of humic acids from ordinary peat with 0.1 *N* NaOH under a stream of N yielded the same amt. (30%) of acids with essentially the same C, H, phenolic OH, and CO_2H contents as were obtained on extn. in air. Oxidation of the peat occurred well before the extn. of the humic acids. From a sample of peat obtained in an undrained section, only 1.3% humic acid was extd. under a stream of N, but 3% was extd. in air. The MeO, CO_2H, phenolic OH, and carbonyl contents were greater in the humic acid extd. in air. A standardized method that was used to obtain humic acids from 21 peat samples of different origin consisted of alk. extn. at room temp. for 4 days. The yield varied from 10 to 54% humic acid contg. C 53-62, H 4.3-5.6, N 0.6-2.2, MeO 0.3-1.3, CO_2H 1.8-3.6, and phenolic OH 3.9-7.7%. If the mol. wt. of the acid was assumed to be 1300, each mol. contained 2-4 CO_2H groups, 5-10 phenolic OH groups, and 1-2 MeO groups.

H. K. Livingston

1951

C A

23

Humic acids in the early stage of their formation. T. A. Kukharenko (Inst. Goryuchikh Iskopaemykh, ~~Akad. Nauk S.S.S.R.).~~ *Doklady Akad. Nauk S.S.S.R.* 72, 967-70(1950); cf. C.A. 44, 8181. Chem. analysis of humic acids isolated from oak stumps and thus subjected to early stages of bacterial action revealed the following unusually high content of MeO groups: 9.55% MeO, 1.81 milliequivs. CO_2H per g. Oak lignin had 18.5% MeO and 0.8 milliequiv. CO_2H per g. Humic acids from conifer wood matter had 8.81% MeO and 2.12 milliequivs. CO_2H, against 15.31 and 1.51 for the lignin from the same source. Humic acids from Tyulgan lignite gave 9.00 and 1.00, resp., whereas those from maple leaf gave 3.2 and 1.0, resp. The products can be regarded as intermediates between lignins and true humic acids. Bacterial (*Cellvibrio*) decompn. of pure cellulose gave 3% yield of humic acids in 11 months' treatment and the product contained 0.18% MeO and 1.71 milliequivs. CO_2H/g., i.e., close to peat humic acids. Artificial humic acids prepd. from paraffin and bitumen of Krivlev coal according to Orlov's method (Orlov, *Sketches on Coal History*, 1931) gave 5.2-5.9 total CO_2H-OH milliequivs./g. and 2.5 CO_2H milliequivs. per g.; those from sugar were similar, while those from coal gave a somewhat higher acidity; those from furfural a lower one (oxidations done by air at elevated temps.). The "artificial" humic acids thus have chem. properties which do not differ significantly from the range presented by the natural humic acids. G. M. K.

21

C.A.

X-ray study of humic acids [of coal]. V. I. Kasatochkin,
F. A. Kukharenko, E. Yu. Zolotarevskaya, and L. I. Razu-
mova. *Doklady Akad. Nauk S.S.S.R.* 74, 775-8 (1950).
Humic acids are aromatic hydroxy carboxylic acids of high
mol. wt. Changes in their mol. structure during the grad-
ual coalification were studied by x-ray examn. of peats and
soft coals of different localities, and artificially oxidized coal
(with ratios C:H from 13.2 to 20.8). The interferences are
increasingly distinct and sharper with advancing degree of
coalification and mol. rearrangement. The humic acid
from coal shows 3 max. which correspond to a double-
hexagonal C lattice, similar to that in graphite. With
progressive coalification, the ordered lattice of the aromatic
nuclei of the humic acid increases; the disordered part ap-
pears peripheral owing to the groups of the mols. The
changes of the ratio C:H as an indicator for increasing con-
densation of aromatic nuclei parallel these diffraction
phenomena. The calcd. no. of rings in the nucleus varies

between 1 and 10, or more; the progressive coalification
corresponds to their condensation to increasingly graphite-
like lattices with decreasing nos. of side chains. W. Eitel

KUKHARENKO, T. A.

"Humic Acids and the Change of Their Chemical Nature in the Process of the Formation of Coal." Sub 18 Dec 51, Inst of Mineral Fuels, Acad Sci USSR.

Dissertations presented for science and engineering doctorate degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

F

K

1307. HYDROGENATION OF HUMIC ACIDS ON NICKEL CATALYST.
Kukharenko, T.A. and Savel'ev, A.S. (Doklady Akad. Nauk SSSR (Rep. Acad. Sci. U.S.S.R.), 1951, vol. 76, 77-80; abstr. in Chem. Abstr., 1951, vol. 45, 8451, 8452). The course of the reaction in dioxane was the same for acids from peat, brown coal, and sugar. The products were volatile and nonvolatile carboxylic acids, phenols, neutral compounds; many were soluble in water and ether. The ether-insoluble compounds had a neutral character and contained more C and H than the original acids. Humic acids of sugar, unlike the others, were more saturated and formed the greatest amount of the neutral compounds. Ether-soluble compounds obtained from hydrogenation in solution containing enough alkali to neutralize the active acid groups, had the same classes of substances but no phenols. Addition of acid precipitated solid substances soluble in Me_2CO, dioxane, alcohol-ether and insolunle in benzene, they had the characteristics of phenol carboxylic acids and contained more C and H then the original humic acids. Humic acids from brown coal were hydrogenated stepwise in alkaline solution and the products analysed. During the first pass the acids decomposed into soluble compounds and a solid residue which had more C, H, and N, a lower mol. wt., and a smaller number of

functional groups than original humic acids. During the 2nd pass a portion of this substance was decomposed into simple and sol. products and a solid substance. This was accompanied by a small addition of H. The new product contained somewhat more C and H and had the characteristics of the product obtained in the 1st pass. The same occurred during the 3rd and 4th passes; as a result, there remained a small amount of solid material containing 10% more C, 2% more H, and 1% more N than the original product. The N content increased during hydrogenation. The content of MeO groups and S decreased regularly with the duration of the treatment. The results indicate that humic acids have the same structure and the complex composition is due to multifunctional high molecular compounds.
C.A.

KUKHARENKO, T. A.

Card 1 of 2

USSR/Chemistry - Coal Jun 52

"Investigation of Residual Brown Coals by Chemosorption," T. A. Kukharenko, A. A. Fedyantseva, Inst of Mineral Fuels, Acad Sci USSR

"Zhur Prik Khim" Vol XXV, No 6, pp 640-651

Some questions connected with the transition of humic acids into the insol state, characteristic for residual coal, were clarified by investigating chem adsorption. Most of the residual coal was formed by the change of humic acids. The deg of condensation of aromatic nuclei in it is not noticeably increased in comparison with humic acids. Humic

218T36

KUKHARENKO, T. A. Card 2 of 2

USSR/Chemistry - Coal (Contd 1) Jun 52

acids, on turning into residual coal, age colloidally. Closed groupings of the aldehyde or lactone type are absent. The action of high pressures on humic acids leads to condensation of their org structure, to lowering of their carboxyl and carbonyl group content, and to increase their phenolic hydroxyl group content with lowering of the carbon content. A considerable number of complex chem transformations takes place during transition from humic acids into neutral substances of mineral coal. They take place at different speeds, with one frequently predominating over the others. They lead to condensation of the org structure of humic acids,

218T36

USSR/Chemistry - Coal (Contd 2) Jun 52

to increase of the mol wt, to decrease in the quantity of functional groups, to lowering of the number of unsatd bonds, etc.

KUKHARENKO, T. A.

Study of residual brown coal by chemosorption. T. A. Kukharenko and A. A. Fedyantseva. *J. Appl. Chem. U.S.S.R.* 25, 717-25(1952)(Engl. translation).—See *C.A.* 47, 11690e.
H. L. H.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Fuels and Carbonization Products

[illegible], [illegible] A.; VVEDENSKAYA, T. Ye.;
BEL'GOVA, V. V.

Sodium

Interaction of humic acids of mineral carbons with metallic sodium in liquid ammonia.
Dokl. AN SSSR 86, no. 3, 1952.

9. Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

1. SAVEL'YEV, A. S., and KUKHARENKO, T. A.

2. USSR (600)

4. Hydrogenation

7. Neutral substances in products of hydrogenation of humic acids of diverse origin. Dokl. AN SSSR 86 no. 4, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

1. KUKHARENKO, T.A.
2. USSR (600)
4. Humic Acid
7. Humic acids of coal, Priroda 42 no. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

Kukharenko, T.A.

1

958. SOME OPTICAL PROPERTIES OF HUMIC ACIDS OF COALS.
Kukharenko, T.A. (Dokl. Akad. Nauk SSSR (Rep. Acad. Sci. U.S.S.R.), 1 Mar. 1953, Vol. 89, (1), 133-135). Humic acids obtained from humified wood, sugar and furfural, peats, brown coals, and weathered and oxidized coals were dissolved 0.02% in 0.1 N. caustic soda solution. The sodium humates were examined by spectrophotometer and their weakening effects on lights of different wave length are shown in graphs. The weakening effect was always greater at the blue than at the red end of the spectrum, and greater for humates from more coalified substances. This is explained as due to the greater condensation of aromatic nuclei which goes with increased coalification. It is suggested as a means of distinguishing weathered bituminous coals from brown coals when prospecting new fields. (L).

Fuel

KUKHARENKO, T. A.
Chemical Abst.
Vol. 48
Apr. 10, 1954
Fuels and Carbonization Products

③

Thermographic study of humic acids of coal. B. K. Klimov, T. A. Kukharenko, and K. I. Chibisova. *Doklady Akad. Nauk S.S.S.R.* 92, 963-6(1953).—Thermographic examn. of coal humic acids from various sources shows that the main thermal effect on heating such substances is condensation of the rings and intermediate decompn. products, with a weaker effect of cleavage of active groups and side chains. Hence, the thermograms of humic acids from solid fuels do not show regular variations in transition from sources of very early-formed types to the more recently formed ones. Numerous records are shown. All humic acids show a max. at 390–420° and one at 725–35°. Those from brown coal show an endothermic effect at 150-65°, as do the derivs. from peat.

G. M. Kosolapoff

KUKHARENKO, T.A.

Humic acids in peat and characteristics of [illegible] [illegible]

[illegible] Kukharenko. [illegible]

[illegible]

[illegible] al (C.A. 43, 3127f) are incorrect. The structure proposed for humic acids is —ORCH$_2$C(CH$_2$OR'')(OR''' [illegible])OR'CH$_2$C(CH$_2$OR')(OR'' —)ORCH$_2$C(CH$_2$OR [illegible] in which R, R', R'', and R''' [illegible] ring systems that have different heterocycles, functional groups, and side chains. The mol. wt. of humic acids has not been definitely established. Some references mention 1300-1400, 4000-20,000, and also 200-350. If it is assumed that humic acids have a lattice-like structure, the ordinary concept of mol. wt. cannot be applied. The humic acids in peat are more highly dispersed and more stable to coagulation than other humic acids. Their content in peat attains 60%. S. G. M.

KUKHARENKO, T. A.

USSR/Geology - Geochemistry

Card 1/1 : Pub. 22 - 33/44

Authors : Kukharenko, T. A., and Sukharev, S. S.

Title : Viscosity of alkali solutions of humic acids of solid fuels of various stages of coal-formation

Periodical : Dok. AN SSSR 98/6, 1007-1009, October 21, 1954

Abstract : The specific weight and viscosity of alkali solutions of humic acids of peat, coal, etc., was measured at various concentration of these fuel substances in the solution. The results obtained are presented in the table. Six USSR references (1935-1953).

Institution : Acad. of Sc. USSR, Mining Institute and Acad. of Sc. Kaz-SSR, The Ural-Embensk Scientific Research Station

Presented by: Academician S. I. Mironov, May 25, 1954

Kukharenko, T. A.

✓124. PRESENT STATE OF OUR KNOWLEDGE ON THE STRUCTURE AND PROPERTIES OF HUMIC ACIDS AND COALS. Kukharenko, T.A. (Trud. Inst. gor. Iskop. (Trans. Inst. combust. Miner., Acad. Sci. U.S.S.R.), 1955, vol. 5, 11-35: title in Torf. Prom. (Peat Ind., Moscow), 1955, (5), 30). FU

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Tarry coal of Urumcha region of Western China and its semicoking. T. A. Kukharenko. *Vestnik Akad. Nauk. Kazakh. S.S.R.* 11, No. 3(Whole No. 120), 69-74(1955). —The coal contains little S and ash and has a high yield of combustible volatile matter. Its type is that of transitional from brown coal to bituminous coal. Dry distn. in an Al retort gives a good yield (16%) of primary tar with a high content of low-boiling fractions. The primary tar contains little free C and asphaltenes with 70% neutral substances, and considerable amt. of phenols and bases of low b.p. The coal is believed to be suitable as a source of motor fuel.

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[redacted]

Humic acids and their uses. Priroda 44 no.8:86-89 Ag '55.
(MLRA 8:10)

1. Institut goryuchikh iskopayemykh Akademii nauk SSSR
(Humic acid)

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USSR/ Minerals - Analysis

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Authors : Kukharenko, T. A., Doctor of Chem. Sc.

Title : Pitch coal of the Urumcha region of western China and its semicoking

Periodical : Vest. AN Kaz. SSR 120/3, 69-74, Mar 1955

Abstract : A technical analysis of pitch coal from the valley of the Tu-Tun-Ho river in the Urumcha region in China is presented. The analysis was conducted with respect to the chemical content of the coal, and the characteristics of dry distillation products of the coal. Tables.

Institution :

Presented by: Active Member of the Acad. of Sc., Kaz. SSR.A. Ye. Bekturov [illegible] Kukharenko, T.A. and [illegible], I.G. (Khim. i Tekhnol. Topliva (Chem. Technol. Fuel, Moscow), June 1956, 22-34). A longer paper on the same [illegible] in Fuel Abstr., 1957, vol. 22, [illegible] [illegible].

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Fuel

Certain aspects of weathering of coal in relation to its petrographic composition. T. A. Kukharenko and Z. A. Ryzhova. *Khim. i Tekhnol. Topliva* 1956, No. 4, 20-30.—Effects of natural oxidation on the chemical properties of coals from various mines of U.S.S.R. were studied with latest scientific methods. From the analysis of comprehensive data three stages of weathering were assigned, depending on the intensity of oxidation and the properties of coal. In the initial stage, oxygen reacts with coal forming a bridge between the macromolecules, thus creating "potential" humic acids, the concn. of which gradually increases. Subsequent oxidation brings about an intensive formation of humic acids and a decrease in the content of hydrocarbon and H. The last stage consists of the decompn. of acids and condensation of aromatic nuclei. The decrease in the concn. of the acids is accompanied by the formation of gaseous and water-sol. products. As a result of this work a method was developed for the identification and sepn. of brown coal from weathered coal by means of coagulation of their alk. exts. (cf. *Second Conf. Coal-Geol. Sect. Acad. Sci. U.S.S.R.* 1955, 96 pp.) Another practical conclusion of the work was the manufg. of humic acids from coals rendered economically useless by weathering. Petrographic compn. of coal had a definite effect on its oxidation. Thus, vitrain under natural conditions is more easily oxidizable than fusain. 26 references. A. P. Kotloby